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**Amendments to the claims:**

Please amend the claims as follows:

- 1.(currently amended) A method of stabilizing porous silicon comprising the steps of:  
preparing a porous silicon structure having a surface terminated with hydrogen atoms; and  
subjecting said porous silicon structure to ~~organic~~ thermal processing at an elevated temperature less than 250°C with-in the presence of an alkene reactants selected from the group consisting of any unsaturated group (RCH=X or R<sup>1</sup>R<sup>2</sup>C=X, X=CH<sub>3</sub>, O, NR<sup>1</sup>, S) or nucleophilic center (R<sub>3</sub>Nu, Nu=OH, NHR<sup>1</sup>, SH, COOH) to substitute said hydrogen atoms with a protective organic passivating layer, and wherein the alkene reactants are is deoxygenated and purified to free them of peroxide and hydroperoxide impurities prior to thermal processing prior to said thermal processing, and wherein and the length of the carbon chains in the said alkene reactants has a carbon chain having a length is greater than or equal to 8.
- 2.(cancelled)
- 3.(original) A method as claimed in claim 1, wherein said organic thermal processing is carried out in the absence of an external catalyst.
- 4.(original) A method as claimed in claim 1, wherein said protective organic layer has a thickness is equal to or less than the length of the molecules of said reactants.
- 5.(cancelled)
- 6.(currently amended) A method as claimed in claim 1, wherein said ~~organic thermal processing comprises reacting said porous silicon structure with reactants~~ is selected from the group consisting of: 1-decene, octyl, and decyl aldehydes, ethyl undecylenate, and 1,7-octadiene.
- 7.(currently amended) A method as claimed in claim 6, wherein said ~~organic~~ thermal processing takes place at a temperature of between 50°C and 250°C.
- 8.(currently amended) A method as claimed in claim 7, wherein said ~~organic~~ thermal processing takes place at a temperature of between 85°C and 115°C.

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9.(original) A method as claimed in claim 6, wherein said porous silicon structure is reacted with 1-decene at 115°C.

10.(original) A method as claimed in claim 9, wherein said porous silicon structure is reacted with 1-decene for about sixteen hours.

11.(cancelled)

12.(currently amended) A method as claimed in claim 1, wherein said reactants are purified prior ~~at to~~ said thermal processing step by distillation.

13.(currently amended) A method as claimed in claim 12, wherein prior to thermal processing ~~the said porous~~ silicon structure is rinsed with an organic solvent and then dried.

14.(original) A method as claimed in claim 13, wherein said organic solvent is ethanol.

15.(currently amended) A method as claimed in claim 13, wherein said porous silicon structure is dried by exposure to an inert gas flow.

16.(original) A method as claimed in claim 15, wherein said inert gas is selected from the group consisting of argon and nitrogen.

17.(cancelled)

18.(cancelled)

19.(currently amended) A method as claimed in claim 18, wherein said porous silicon structure is thermally reacted with ethyl undecylenate to produce a surface bearing an ester function at the end of an organic monolayer covalently attached to porous silicon layer.

20.(original) A method as claimed in claim 19, wherein said thermal processing takes place at 85°C.

21.(currently amended) A method of making a porous silicon structure, comprising:  
treating a silicon wafer in an aqueous acid solution to remove native oxide and produce a hydrogen-terminated surface;  
electrochemically etching said hydrogen terminated surface to provide a porous silicon film;

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providing an alkene reactant capable of producing a protective organic layer on said structure;

~~purifying~~ ~~deoxygenating~~ said alkene reactant ~~and purifying it~~ to remove peroxide and hydroperoxide impurities; and

subjecting said porous silicon film to ~~organic~~-thermal processing in the presence of said alkene reactant at a moderately elevated temperature less than 250°C to substitute said-hydrogen atoms in said hydrogen-terminated surface with a protective organic passivating layer.

22.(original) A method as claimed in claim 21, wherein said reactant is purified by distillation.

23(currently amended). A method as claimed in claim 21, wherein said ~~organic~~ thermal processing takes place in the absence of an external catalyst.

24.(original) A method as claimed in claim 21, wherein said porous silicon film is subjected to ~~organic~~-said thermal processing at a temperature between 85 and 115°C.

25.(currently amended) A method as claimed in claim 21, wherein said protective organic layer is an organic monolayer of a thickness substantially equally to the length of molecules in said organic protective layer.

26.(cancelled)

27.(currently amended) A method as claimed in claim 21, wherein said porous silicon film is reacted with compounds selected from the group consisting of: 1-decene, ~~ethyl, and decyl aldehydes, ethyl undecylenate, and~~ 1,7-octadiene.

28.(currently amended) A bio or chemical sensor comprising a porous silicon structure made by the ~~process~~-method defined in claim 1.

29.(currently amended) A bio or chemical sensor comprising a porous silicon structure made by the ~~process~~-method defined in claim ~~20~~21.

30.(currently amended) A medical device comprising a porous silicon structure made by the ~~process~~-method defined in claim 1.

31.(currently amended) A medical device comprising a porous silicon structure made by the process defined in claim ~~20~~21.

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32.(original). An electronic/photonic/optoelectronic device comprising a porous silicon structure made by a ~~process~~the method as defined in claim 1.

33.(currently amended) An electronic/photonic/optoelectronic device comprising a porous silicon structure made by a ~~process~~the method as defined in claim 2021.

34.(currently amended). In a A device for the detection of DNA or proteins for genomics applications, the improvement wherein said device includes comprising a stabilized porous silicon structure made by the ~~process~~method defined in claim 1 for the detection of DNA or proteins for genomics applications.

35.(currently amended). In a device for the detection of DNA or proteins for genomics applications, the improvement wherein the device includes A device comprising a stabilized porous silicon structure made by the ~~process~~method defined in claim 201 for the detection of DNA or proteins for genomics and proteomics applications.